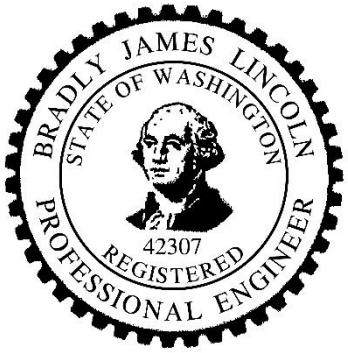
Kimley»Horn
22722 29th Drive SE
Suite 100
Bothell, WA 98021
425.339.8266

MacLean
Traffic Impact Analysis

Jurisdiction: City of Issaquah

May 2022



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1. EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. has been retained to provide a traffic analysis of the proposed MacLean development. The development is located between 236th Avenue SE and Issaquah-Pine Lake Road, south of SE 48th Street. Three intersections in the site vicinity have been analyzed and the intersections are anticipated to operate at acceptable levels of service with the MacLean development. The current motorized and non-motorized traffic impact fee, totaling $10,530.22 per unit, results in a total traffic mitigation fee of $231,664.84.

2. PROPOSED DEVELOPMENT

The MacLean development is located between 236th Avenue SE and Issaquah-Pine Lake Road, south of SE 48th Street. A site vicinity map showing the site is included in Figure 1. The development is proposed to consist of 23 single-family residential units. There is one existing single-family residential unit on the site that will be removed and is creditable to the development. The site is proposed to have one access that will align with SE 49th Street.

2.1 Methodology

The trip generation calculations for the MacLean development have been calculated based on data from the latest edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition (2021)*. The trip distribution is based on surrounding land uses and counts at the study intersections.

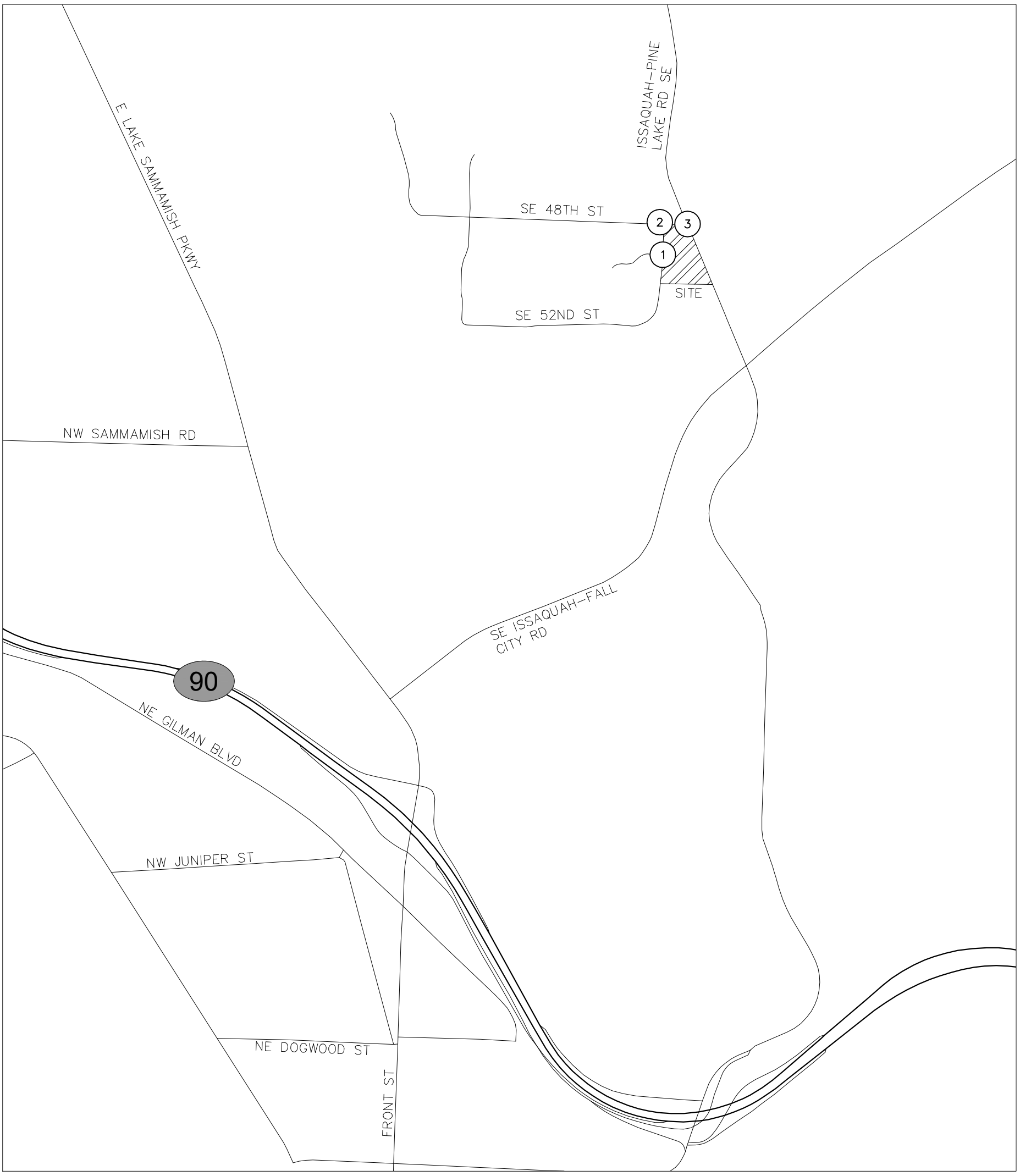
The following intersections have been analyzed as part of this report:

1. 236th Avenue SE at SE 49th Street/Site Access
2. 236th Avenue SE at SE 48th Street
3. Issaquah-Pine Lake Road at SE 48th Street

The intersection analysis has been performed for the PM peak-hour, the highest hour between 4:00 PM and 6:00 PM. The PM peak-hour is when the development is anticipated to generate the highest number of trips.

A 2% annually compounding growth rate has been included in the calculations of future vehicles at the study intersections. The intersection analysis has been performed for the following conditions, based on the City of Issaquah's TIA Guidelines:

- 2022 Existing Conditions
- 2028 Baseline Conditions
- 2028 Future with Development Conditions



NORTH

MACLEAN
23 SINGLE-FAMILY DETACHED UNITS

CITY OF ISSAQUAH

LEGEND

DEVELOPMENT SITE

FIGURE 1
VICINITY MAP

Kimley»Horn

Congestion at intersections and along arterials is generally measured in terms of level of service (LOS). In accordance with *Highway Capacity Manual (HCM) 6th Edition* by the Transportation Research Board, road facilities and intersections are rated between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. The level of service at signalized, roundabout and all-way stop-controlled intersections is based on the average delay of all approaches. The level of service for two-way stop-controlled intersections is based on average delays for the critical stopped approach. Geometric characteristics and conflicting traffic movements are taken into consideration when determining level of service values. A summary of the intersection level of service criteria is included in Table 1.

Table 1: Level of Service Criteria for Intersections

Level of Service [1]	Expected Delay	Intersection Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	Average Delays	>15 and ≤25	>20 and ≤35
D	Long Delays	>25 and ≤35	>35 and ≤55
E	Very Long Delays	>35 and ≤50	>55 and ≤80
F	Extreme Delays	>50	>80

The City of Issaquah uses LOS D as the acceptable level of service threshold.

3. EXISTING CONDITIONS

3.1 Existing Roadway Conditions

The proposed MacLean development would include one access to 236th Avenue SE that will align with SE 49th Street. A short description of the existing intersection control and channelization for each off-site study intersection is included below.

[1] **Source:** *Highway Capacity Manual 6th Edition.*

LOS A: Free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).
LOS B: Generally stable traffic flow conditions.
LOS C: Occasional back-ups may develop, but delay to vehicles is short term and still tolerable.
LOS D: During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).
LOS E: Intersections operate at or near capacity, with long queues developing on all approaches and long delays.
LOS F: Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

3.1.1. 236th Avenue SE at SE 49th Street

The intersection of 236th Avenue SE at SE 49th Street is a 3-leg intersection that will be converted to a 4-leg intersection with the development. There is not currently stop-control on any of the three legs, but it is assumed that the SE 49th Street approach would be stop-controlled and has been analyzed as such in this report. There are curb, gutter, and sidewalks along both sides of the roadways. There are single lanes on all approaches.

3.1.2. 236th Avenue SE at SE 48th Street

The intersection of 236th Avenue SE at SE 48th Street is a 3-leg intersection with stop-control on the SE 48th Street approach. There are curb, gutter, and sidewalk on the most corners of the intersection. The north side of SE 48th Street is undeveloped west of SE 236th Avenue and there are only paved shoulders along the north side of SE 236th Street west of SE 48th Street. There are single lanes in all approaches.

3.1.3. Issaquah-Pine Lake Road at SE 48th Street

The intersection of Issaquah-Pine Lake Road at SE 48th Street is a signalized intersection. There is a northbound left-turn lane on Issaquah-Pine Lake Road and separate left and right-turn lanes along SE 48th Street. The northbound left-turn phase has protected/permitted. There are paved shoulders along Issaquah-Pine Lake Road.

3.2 2022 Existing Traffic Volumes

Existing PM peak-hour turning movements were collected in April 2022 by IDAX, an independent data collector. The existing PM peak-hour turning movements are shown in Figure 2. The existing turning movement counts are included in the attachments.

E LAKE SAMMAMISH PKWY

ISSAQUAH-PINE LAKE RD SE

SE 48TH ST

SE 52ND ST

SITE

NW SAMMAMISH RD

SE ISSAQUAH-FALL CITY RD

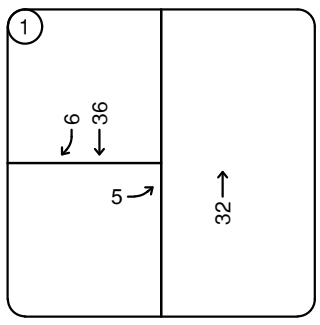
90

NE GILMAN BLVD

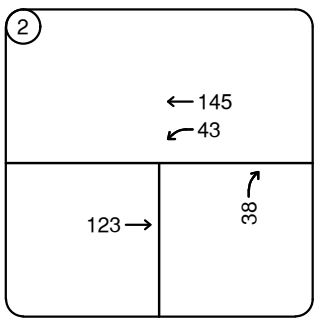
NW JUNIPER ST

NE DOGWOOD ST

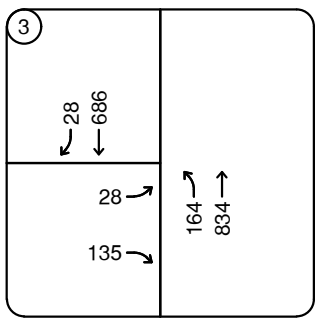
FRONT ST



236TH AVE SE @ SE 49TH ST



236TH AVE SE @ SE 48TH ST



ISSAQUAH-PINE LAKE RD SE @ SE 49TH ST

NORTH

MACLEAN
23 SINGLE-FAMILY DETACHED UNITS

CITY OF ISSAQUAH

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 2

2022 EXISTING TURNING MOVEMENTS

Kimley»Horn

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4. FUTURE CONDITIONS

4.1 Future Roadway Conditions

The analysis in this report assumes that there are not any capacity related improvements at the study intersections. The year 2028 has been utilized for the future year analysis in this report.

4.2 Baseline Traffic Volumes

The baseline traffic volumes at the study intersections have been calculated by applying a 2% annually compounding growth rate to the 2022 existing turning movements. The 2028 baseline traffic volumes at the study intersections are shown in Figure 3.

4.3 Trip Generation

The trip generation calculations for the MacLean development have been performed using data published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition (2021)*. The trip generation calculations have been performed using the average trip generation rates for ITE Land Use Land Use Code 210, Single-Family Detached Housing. The trip generation calculations are based on 22 new units since 23 units are proposed in the development and there is credit for 1 existing unit that will be removed. The trip generation of the development is summarized in Table 2.

Table 2: Trip Generation Summary

22 Units Single-Family Detached Housing	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	9.43 trips per Unit			0.70 trips per Unit			0.93 trips per Unit		
Splits	50%	50%	100%	26%	74%	100%	63%	37%	100%
Trips	104	103	207	4	11	15	13	8	21

The MacLean development is anticipated to generate 207 new average weekday daily trips with 15 new AM peak-hour trips and 21 new PM peak-hour trips.

4.4 Trip Distribution and Assignment

Trip distribution and traffic assignments for the MacLean development are based on surrounding land uses and data at the study intersections. It is anticipated that 15% of the trips generated by the development will travel to and from the north along Issaquah-Pine Lake Road. The remaining 85% of the trips generated by the development will travel to and from the south along Issaquah-Pine Lake Road. The detailed trip distribution and trip assignments at the study intersections are shown in Figure 4 for the PM peak-hour. It is important to note that the volumes shown in Figure 4 may be slightly different than the trip generation due to rounding.

E LAKE SAMMAMISH PKWY

ISSAQUAH-PINE LAKE RD SE

SE 48TH ST

SE 52ND ST

SITE

NW SAMMAMISH RD

SE ISSAQUAH-FALL CITY RD

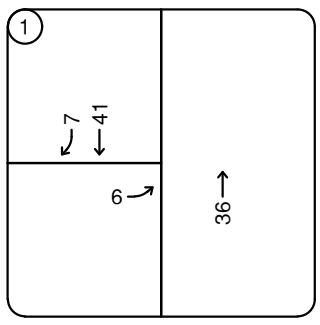
90

NE GILMAN BLVD

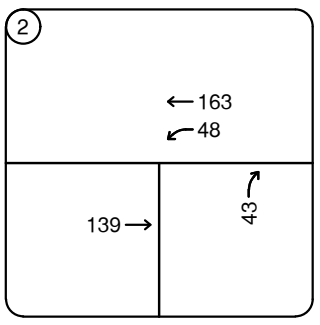
NW JUNIPER ST

NE DOGWOOD ST

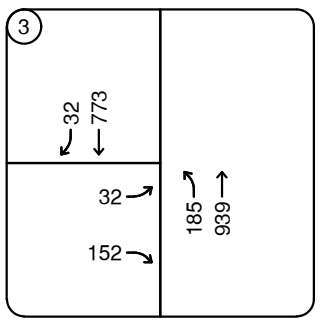
FRONT ST



236TH AVE SE @ SE 49TH ST



236TH AVE SE @ SE 48TH ST



ISSAQUAH-PINE LAKE RD SE @ SE 49TH ST

NORTH

MACLEAN
23 SINGLE-FAMILY DETACHED UNITS

CITY OF ISSAQUAH

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 3
2028 BASELINE TURNING MOVEMENTS

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E LAKE SAMMAMISH PKWY

ISSAQUAH–PINE LAKE RD SE

SE 48TH ST

SE 52ND ST

SITE

NW SAMMAMISH RD

SE ISSAQUAH–FALL CITY RD

90

NE GILMAN BLVD

NW JUNIPER ST

NE DOGWOOD ST

FRONT ST

1 3 1 15

2 3 1

1 6 2 1 10

1 1

0 2 1 5

1 2 1 10

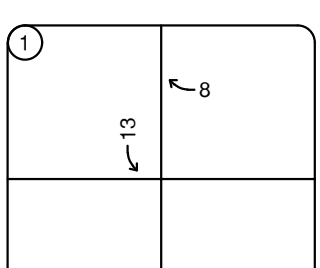
2 6 2 4 30

1 3 1 1 10

2 2 1 10

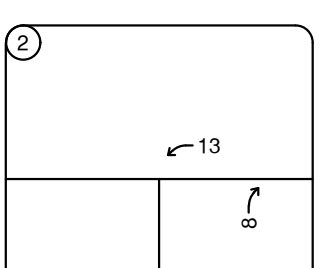
1 2 1 10

1



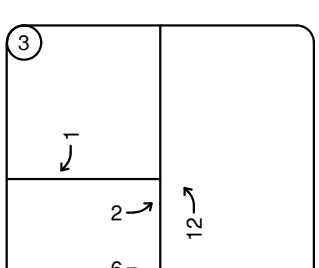
236TH AVE SE @
SE 49TH ST

2



236TH AVE SE @
SE 48TH ST

3



ISSAQUAH–PINE LAKE RD SE
@ SE 49TH ST

NORTH

MACLEAN
23 SINGLE-FAMILY
DETACHED UNITS

CITY OF ISSAQUAH

LEGEND

AWDT
PM ↔ PEAK — NEW DAILY TRAFFIC
NEW PEAK–HOUR TRIPS

XX — TRIP DISTRIBUTION

FIGURE 4

DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK–HOUR

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4.5 Future with Development Traffic Volumes

The 2028 future with development traffic volumes have been calculated by adding the trips generated by the development to the 2028 baseline traffic volumes. The 2028 future with development traffic volumes at the study intersections are shown in Figure 5 for the PM peak-hour.

5. TRAFFIC ANALYSIS AND IMPACT

The traffic analysis has been performed for the PM peak-hour at the following study intersections:

1. 236th Avenue SE at SE 49th Street/Site Access
2. 236th Avenue SE at SE 48th Street
3. Issaquah-Pine Lake Road at SE 48th Street

The analysis has been performed for the following conditions:

- 2022 Existing Conditions
- 2028 Baseline Conditions
- 2028 Future with Development Conditions

The traffic analysis has been performed using the *Synchro 11.1, Build 1* software.

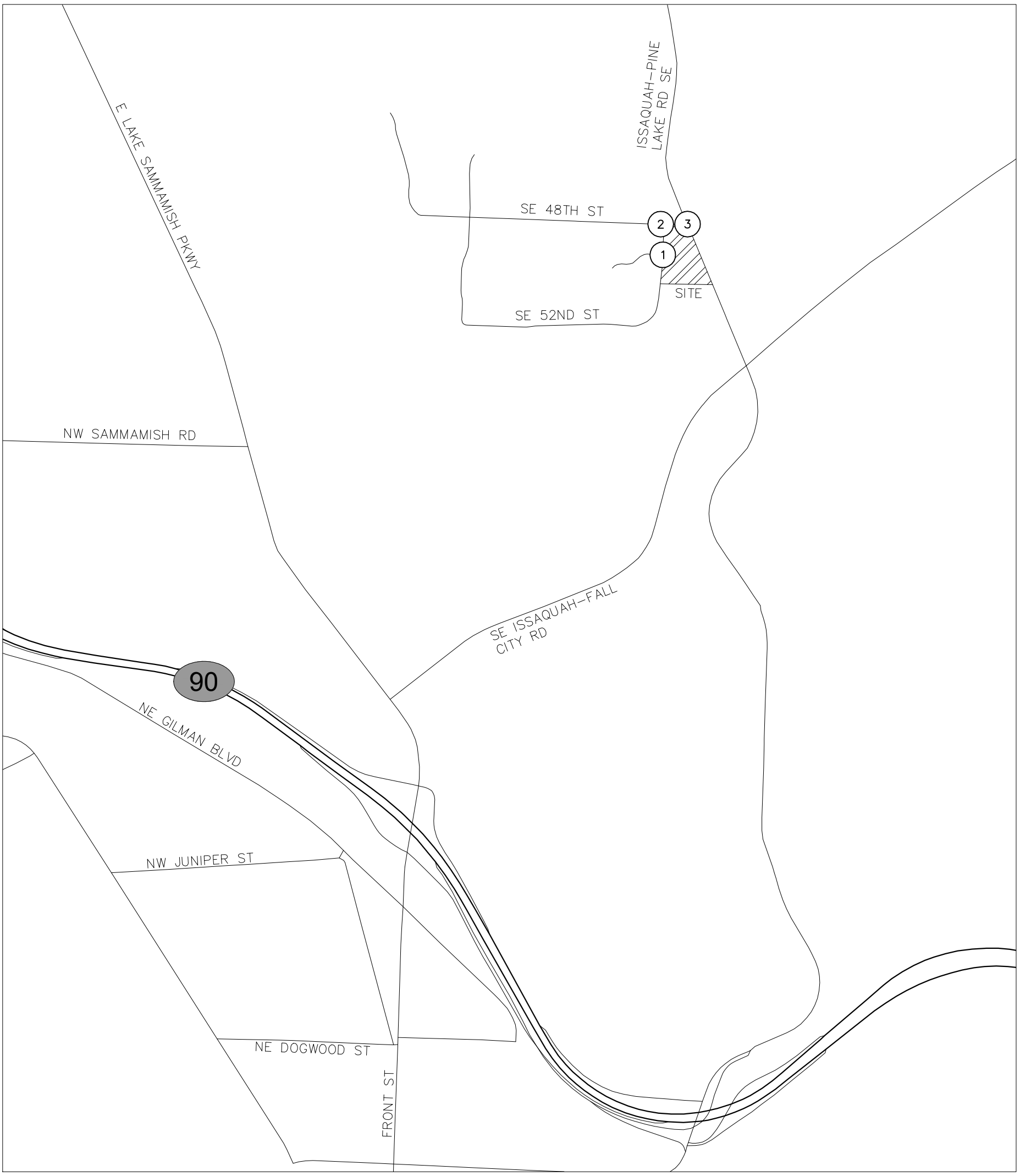
5.1 Intersection Operations

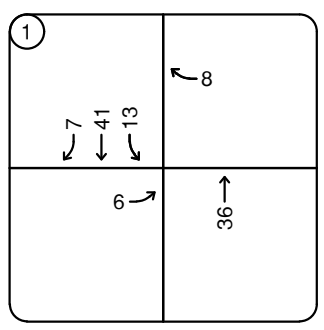
The operations of the study intersections during the PM peak-hour are summarized in Table 3. Table 3 reports the intersection-average vehicle delay and v/c for signalized intersections, and the critical approach-average vehicle delay and v/c for unsignalized intersections.

Table 3: Intersection Operations Summary

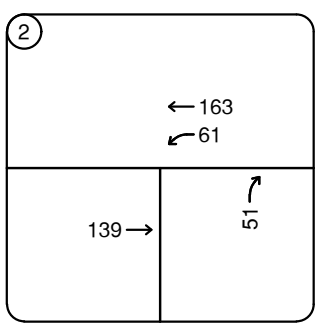
Intersection	Intersection Control	2022 Existing Conditions			2028 Baseline Conditions			2028 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. 236th Avenue SE at SE 49th Street	Minor-Leg Stop-Control	A	9.0	0.01	A	9.0	0.01	A	9.4	0.01
2. 236th Avenue SE at SE 48th Street	Minor-Leg Stop-Control	A	9.2	0.05	A	9.3	0.06	A	9.4	0.05
3. Issaquah-Pine Lake Road at SE 48th Street	Signal	A	8.7	0.63	B	10.5	0.72	B	10.8	0.72

All study intersections are expected to operate at acceptable levels of service during the PM peak-hour based on the City of Issaquah's concurrency standards. The level of service calculations are included in the attachments.

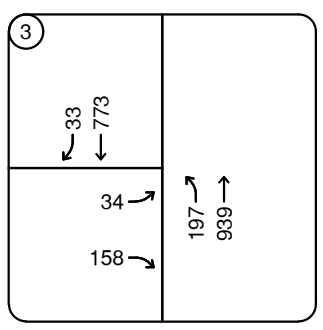




236TH AVE SE @ SE 49TH ST



236TH AVE SE @ SE 48TH ST



ISSAQUAH-PINE LAKE RD SE @ SE 49TH ST

NORTH

MACLEAN
23 SINGLE-FAMILY DETACHED UNITS

CITY OF ISSAQUAH

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 5

2028 FUTURE WITH DEVELOPMENT TURNING MOVEMENTS

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5.2 Operations by Movement

The City of Issaquah requires that the operations of each movement be summarized even if the intersection-average delay meets the City of Issaquah standards. The operations of the individual movements at the study intersections are summarized in Table 4 for the PM peak-hour.

Table 4: Movement Operations Summary

Intersection	Movement	2022 Existing Conditions			2028 Baseline Conditions			2028 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. 236th Avenue SE at SE 49th Street	EB Left/Through/Right	A	9.0	0.01	A	9.0	0.01	A	9.4	0.01
	WB Left/Through/Right	---	---	---	---	---	---	A	8.5	0.01
	NB Left	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB Left	---	---	---	---	---	---	A	7.3	0.01
2. 236th Avenue SE at SE 48th Street	NB Left/Right	A	9.2	0.05	A	9.3	0.06	A	9.4	0.07
	WB Left	A	7.6	0.04	A	7.6	0.04	A	7.7	0.05
3. Issaquah-Pine Lake Road at SE 48th Street	EB Left	D	35.4	0.19	D	35.6	0.20	D	35.7	0.21
	EB Right	B	13.6	0.52	B	13.4	0.55	B	13.4	0.55
	NB Left	A	4.2	0.36	A	6.1	0.48	A	6.7	0.51
	NB Through	A	5.4	0.59	A	6.8	0.67	A	6.8	0.67
	SB Through/Right	B	11.7	0.62	B	14.4	0.72	B	14.7	0.72

All of the movements are anticipated to operate at LOS D or better with v/c ratios of 0.72 or better.

6. MITIGATION IDENTIFICATION AND RECOMMENDATIONS

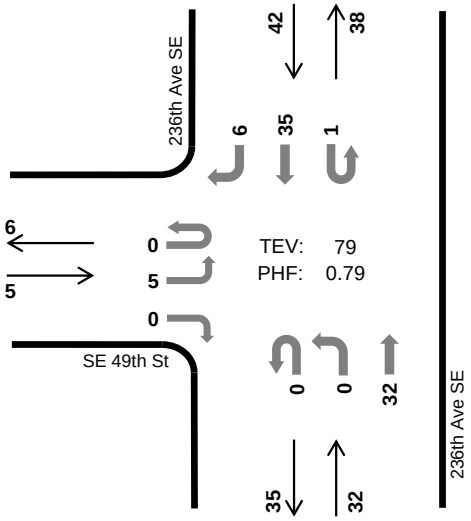
The operational analysis shows that the MacLean development will not significantly impact the operations of the study intersections during the PM peak-hour. The development should therefore only be required to provide frontage improvements and pay the appropriate traffic impact fee. The current traffic impact fee is $9,173.10 per unit for the motorized impact fee and $1,3577.12 per unit for the non-motorized impact fee, totaling $10,530.22 per unit. The 22 new units of the MacLean development will result in a total impact fee of $231,664.84. It is important to note that the fee is assessed at the time of building permit issuance and may increase from what is identified in this report.

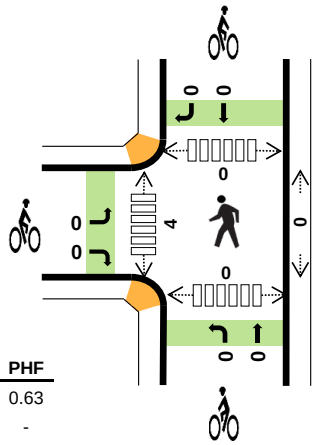
Counts and Turning Movement Calculations

236th Ave SE
SE 49th St

Date: 04/26/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.63
WB	-	-
NB	3.1%	0.73
SB	0.0%	0.70
TOTAL	1.3%	0.79

Two-Hour Count Summaries

Interval Start		SE 49th St Eastbound				0 Westbound				236th Ave SE Northbound				236th Ave SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	4	12	0
4:15 PM		0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	1	11	0
4:30 PM		0	1	0	0	0	0	0	0	0	1	2	0	1	0	3	1	9	0
4:45 PM		0	2	0	0	0	0	0	0	0	0	9	0	0	0	4	2	17	49
5:00 PM		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**5**	**2**	**19**	56
5:15 PM		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**8**	**2**	**16**	61
5:30 PM		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**9**	**1**	**19**	71
5:45 PM		**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**1**	**0**	**13**	**1**	**25**	**79**
Count Total		0	10	0	0	0	0	0	0	0	1	52	0	2	0	49	14	128	0
Peak Hour	**All**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**1**	**0**	**35**	**6**	**79**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
	HV%	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3%**	**-**	**0%**	**-**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	2	0	0	*3*
4:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	1	0	0	*1*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	*3*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
Count Total	1	0	2	0	*3*	0	0	0	0	*0*	1	7	0	0	*8*
Peak Hr	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**0**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SE 49th St				0				236th Ave SE				236th Ave SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	3
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Count Total	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SE 49th St			0			236th Ave SE			236th Ave SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

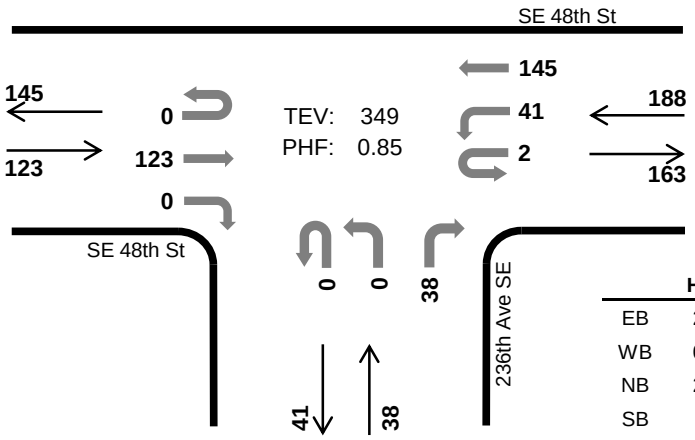
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

236th Ave SE
SE 48th St

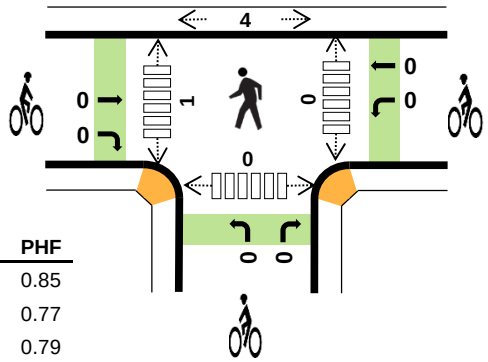
N

Peak Hour

Date: 04/26/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	2.4%	0.85
WB	0.5%	0.77
NB	2.6%	0.79
SB	-	-
TOTAL	1.4%	0.85



Two-Hour Count Summaries

Interval Start	SE 48th St Eastbound				SE 48th St Westbound				236th Ave SE Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	30	0	0	7	29	0	0	0	0	5	0	0	0	0	71	0
4:15 PM	0	0	17	0	0	5	33	0	0	0	0	6	0	0	0	0	61	0
4:30 PM	0	0	24	0	1	5	31	0	0	0	0	4	0	0	0	0	65	0
4:45 PM	0	0	20	0	2	7	26	0	0	1	0	10	0	0	0	0	66	263
5:00 PM	**0**	**0**	**25**	**0**	**1**	**7**	**33**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**78**	270
5:15 PM	**0**	**0**	**31**	**0**	**0**	**9**	**25**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**71**	280
5:30 PM	**0**	**0**	**36**	**0**	**0**	**10**	**42**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**97**	312
5:45 PM	**0**	**0**	**31**	**0**	**1**	**15**	**45**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**103**	**349**
Count Total	0	0	214	0	5	65	264	0	0	1	0	63	0	0	0	0	612	0
Peak Hour All	**0**	**0**	**123**	**0**	**2**	**41**	**145**	**0**	**0**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**349**	**0**
Peak Hour HV	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**0**
Peak Hour HV%	**-**	**-**	**2%**	**-**	**0%**	**0%**	**1%**	**-**	**-**	**-**	**-**	**3%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	2	0	0	*2*	0	0	0	0	*0*	2	0	0	2	*4*
4:45 PM	1	0	1	0	*2*	0	1	0	0	*1*	0	0	0	0	*0*
5:00 PM	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	*2*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**0**	*3*
5:30 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	6	4	2	0	*12*	0	1	0	0	*1*	2	1	4	2	*9*
Peak Hr	**3**	**1**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**4**	**0**	***5***

Two-Hour Count Summaries - Heavy Vehicles

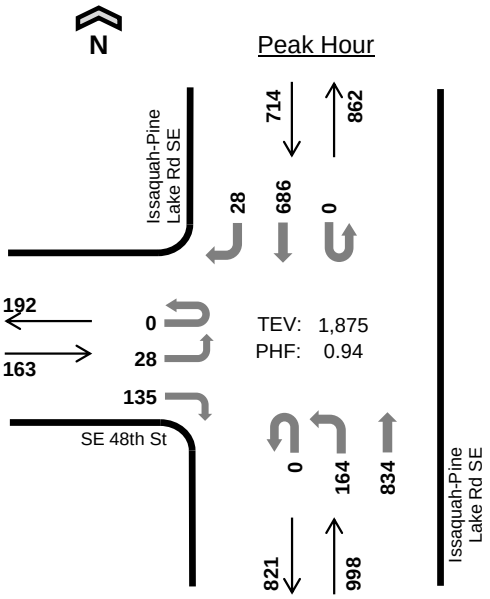
Interval Start	SE 48th St Eastbound				SE 48th St Westbound				236th Ave SE Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	7
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	9
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	7
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
5:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
Count Total	0	0	6	0	0	0	4	0	0	0	0	2	0	0	0	0	12	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**0**

Two-Hour Count Summaries - Bikes

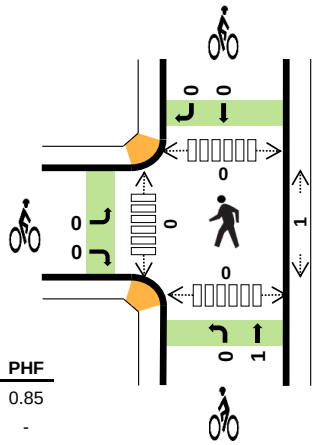
Interval Start	SE 48th St Eastbound			SE 48th St Westbound			236th Ave SE Northbound			0 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Issaquah-Pine Lake Rd SE
SE 48th St



Date: 04/26/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	2.5%	0.85
WB	-	-
NB	0.8%	0.87
SB	1.1%	0.90
TOTAL	1.1%	0.94

Two-Hour Count Summaries

Interval Start		SE 48th St Eastbound				0 Westbound				Issaquah-Pine Lake Rd SE Northbound				Issaquah-Pine Lake Rd SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	3	0	30	0	0	0	0	0	35	175	0	0	0	177	1	421	0
4:15 PM		0	3	0	24	0	0	0	0	0	37	181	0	0	0	169	3	417	0
4:30 PM		0	5	0	24	0	0	0	0	0	27	172	0	0	0	180	10	418	0
4:45 PM		0	8	0	23	0	0	0	0	0	31	212	0	0	0	176	6	456	1,712
5:00 PM		**0**	**8**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**40**	**198**	**0**	**0**	**0**	**170**	**2**	**448**	1,739
5:15 PM		**0**	**1**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**27**	**186**	**0**	**0**	**0**	**191**	**8**	**447**	1,769
5:30 PM		**0**	**12**	**0**	**36**	**0**	**0**	**0**	**0**	**0**	**44**	**242**	**0**	**0**	**0**	**154**	**9**	**497**	1,848
5:45 PM		**0**	**7**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**53**	**208**	**0**	**0**	**0**	**171**	**9**	**483**	**1,875**
Count Total		0	47	0	236	0	0	0	0	0	294	1,574	0	0	0	1,388	48	3,587	0
Peak Hour	**All**	**0**	**28**	**0**	**135**	**0**	**0**	**0**	**0**	**0**	**164**	**834**	**0**	**0**	**0**	**686**	**28**	**1,875**	**0**
	HV	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**8**	**0**	**20**	**0**
	HV%	**-**	**4%**	**-**	**2%**	**-**	**-**	**-**	**-**	**-**	**1%**	**1%**	**-**	**-**	**-**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	5	5	*11*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	0	4	4	*9*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	4	6	*10*	0	0	0	0	*0*	0	2	0	0	*2*
4:45 PM	2	0	5	3	*10*	0	0	0	1	*1*	0	1	0	0	*1*
5:00 PM	**3**	**0**	**1**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:15 PM	**0**	**0**	**3**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**1**	**0**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	8	0	26	26	*60*	0	0	1	1	*2*	1	3	0	0	*4*
Peak Hr	**4**	**0**	**8**	**8**	***20***	**0**	**0**	**1**	**0**	***1***	**1**	**0**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SE 48th St				0				Issaquah-Pine Lake Rd SE				Issaquah-Pine Lake Rd SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	5	0	0	0	5	0	11	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	4	0	0	0	4	0	9	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	1	10	0
4:45 PM	0	0	0	2	0	0	0	0	0	2	3	0	0	0	3	0	10	40
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**7**	36
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**6**	33
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**4**	27
5:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	**20**
Count Total	0	2	0	6	0	0	0	0	0	3	23	0	0	0	25	1	60	0
Peak Hour	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**8**	**0**	**20**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SE 48th St			0			Issaquah-Pine Lake Rd SE			Issaquah-Pine Lake Rd SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	2
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Count Total	0	0	0	0	0	0	0	1	0	0	0	1	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

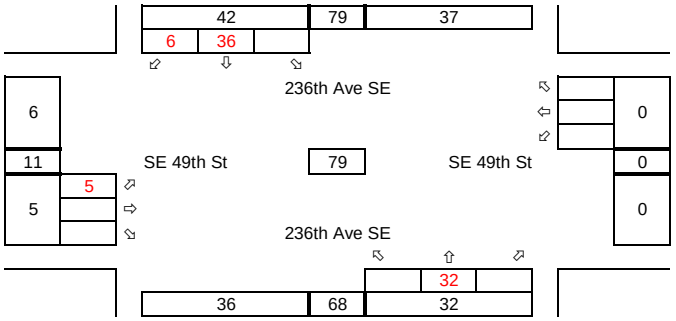
1 236th at 49th

Synchro ID: 1

Existing
Average Weekday
AM Peak-Hour

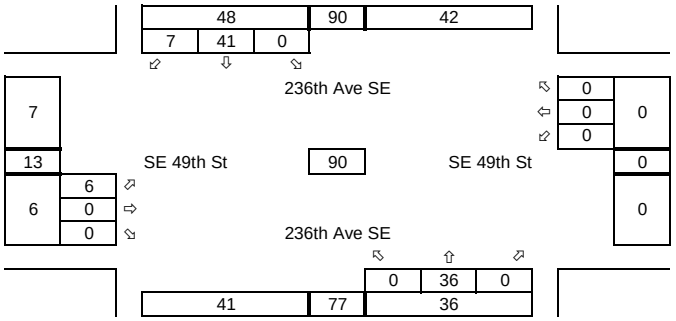
Year: **4/26/2022**

Data Source: **IDAX**



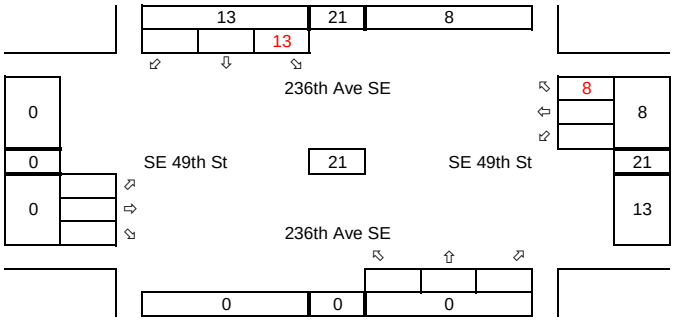
Baseline
Average Weekday
AM Peak-Hour

Year: 2028
Growth Rate = 2.0%
Years of Growth = 6
Total Growth = 1.1262

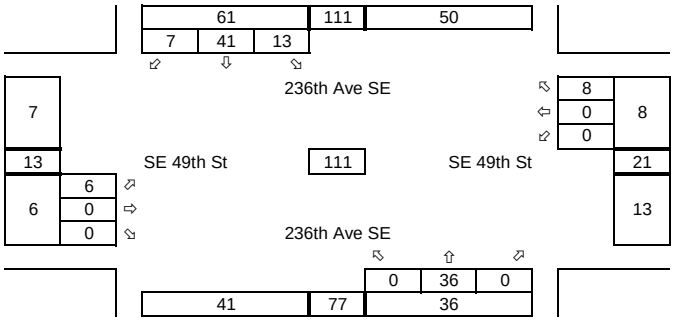


Development
Average Weekday
AM Peak-Hour

Includes Pass-By Trips



Future w Development
Average Weekday
AM Peak-Hour

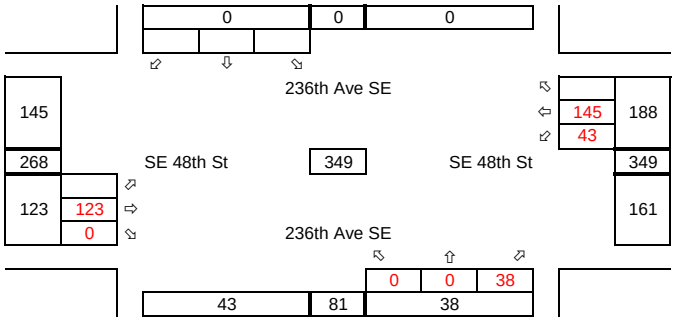


Synchro ID: 1

Existing
Average Weekday
AM Peak-Hour

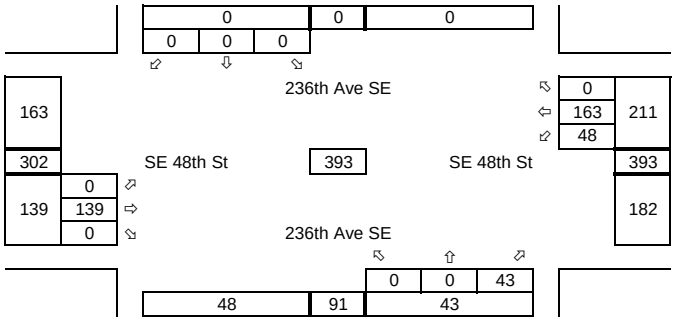
Year: **4/26/2022**

Data Source: **IDAX**



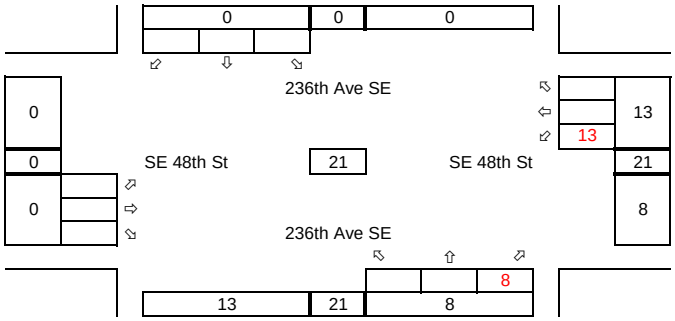
Baseline
Average Weekday
AM Peak-Hour

Year: 2028
Growth Rate = 2.0%
Years of Growth = 6
Total Growth = 1.1262

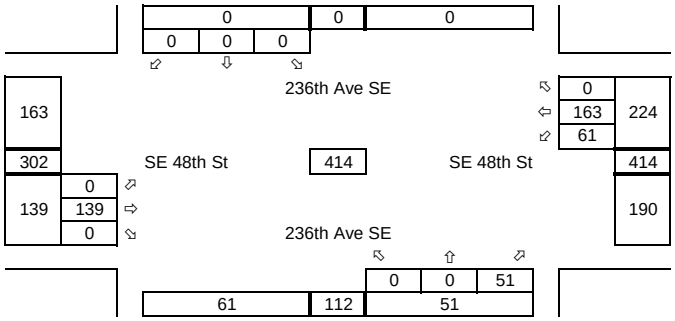


Development
Average Weekday
AM Peak-Hour

Includes Pass-By Trips



Future w Development
Average Weekday
AM Peak-Hour



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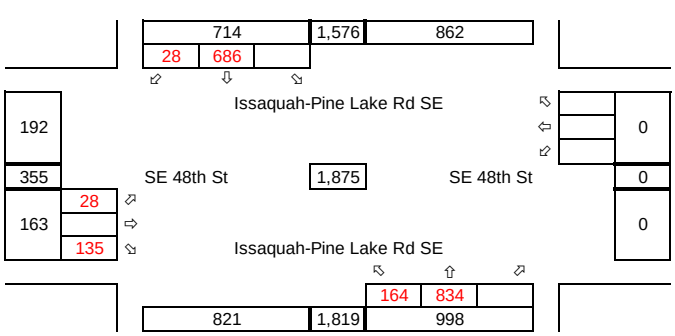
3 Issaquah-Pine at 48th

Synchro ID: 1

Existing
Average Weekday
AM Peak-Hour

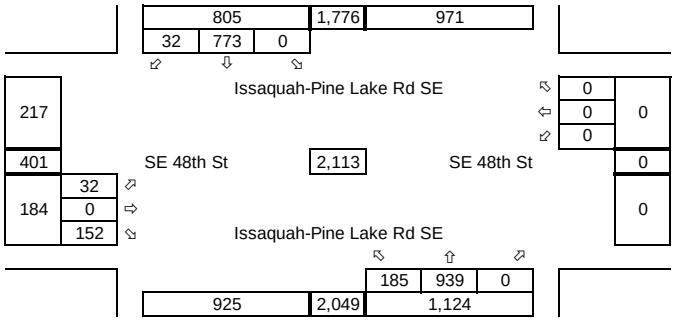
Year: **4/26/2022**

Data Source: **IDAX**



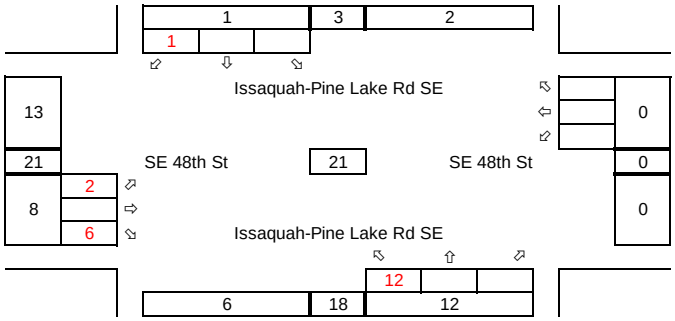
Baseline
Average Weekday
AM Peak-Hour

Year: 2028
Growth Rate = 2.0%
Years of Growth = 6
Total Growth = 1.1262

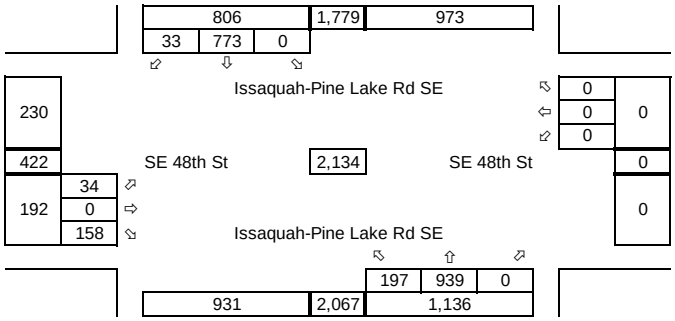


Development
Average Weekday
AM Peak-Hour

Includes Pass-By Trips



Future w Development
Average Weekday
AM Peak-Hour



Level of Service Calculations

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	32	36	6
Future Vol, veh/h	5	0	0	32	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	6	0	0	41	46	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	91	50	54	0	-	0
Stage 1	50	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	912	1021	1558	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	912	1021	1558	-	-	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	984	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	912	-	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

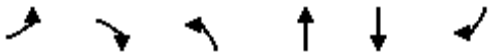
Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	0	43	145	0	38
Future Vol, veh/h	123	0	43	145	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	145	0	51	171	0	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	418	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1443	-	593	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1443	-	570	905
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	905	-	-	1443	-
HCM Lane V/C Ratio	0.049	-	-	0.035	-
HCM Control Delay (s)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

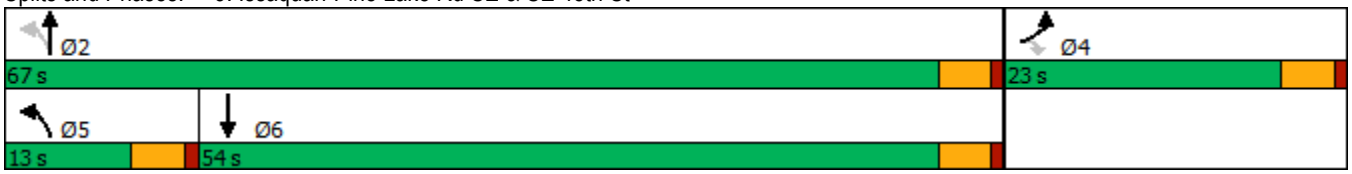


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	135	164	834	686	28
Future Volume (vph)	28	135	164	834	686	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1787	1881	1872	0
Flt Permitted	0.950		0.240			
Satd. Flow (perm)	1787	1599	451	1881	1872	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		144			4	
Link Speed (mph)	30			30	30	
Link Distance (ft)	251			1070	905	
Travel Time (s)	5.7			24.3	20.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	144	174	887	760	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	
Total Split (s)	23.0	23.0	13.0	67.0	54.0	
Total Split (%)	25.6%	25.6%	14.4%	74.4%	60.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	None	Max	Max	
Act Effct Green (s)	7.3	7.3	63.5	63.5	51.8	
Actuated g/C Ratio	0.09	0.09	0.80	0.80	0.65	
v/c Ratio	0.19	0.52	0.36	0.59	0.62	
Control Delay	35.4	13.6	4.2	5.4	11.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.4	13.6	4.2	5.4	11.7	
LOS	D	B	A	A	B	
Approach Delay	17.4			5.2	11.7	
Approach LOS	B			A	B	
Queue Length 50th (ft)	14	0	13	114	188	
Queue Length 95th (ft)	39	51	33	247	360	
Internal Link Dist (ft)	171			990	825	
Turn Bay Length (ft)						
Base Capacity (vph)	414	481	501	1497	1216	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.30	0.35	0.59	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.8			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Issaquah-Pine Lake Rd SE & SE 48th St



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	0	36	41	7
Future Vol, veh/h	6	0	0	36	41	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	8	0	0	46	52	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	103	57	61	0	-	0
Stage 1	57	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	898	1012	1549	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	898	1012	1549	-	-	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1549	-	898	-	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

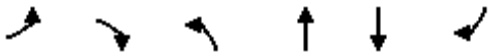
Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	0	48	163	0	43
Future Vol, veh/h	139	0	48	163	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	164	0	56	192	0	51

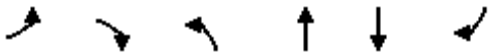
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	164	0	468	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1421	-	555	883
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	531	883
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	883	-	-	1421	-
HCM Lane V/C Ratio	0.057	-	-	0.04	-
HCM Control Delay (s)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



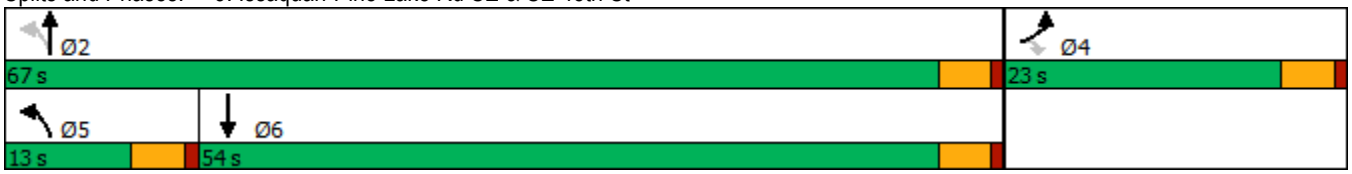
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	152	185	939	773	32
Future Volume (vph)	32	152	185	939	773	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1787	1881	1872	0
Flt Permitted	0.950		0.183			
Satd. Flow (perm)	1787	1599	344	1881	1872	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		162			4	
Link Speed (mph)	30			30	30	
Link Distance (ft)	251			1070	905	
Travel Time (s)	5.7			24.3	20.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	162	197	999	856	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	
Total Split (s)	23.0	23.0	13.0	67.0	54.0	
Total Split (%)	25.6%	25.6%	14.4%	74.4%	60.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	None	Max	Max	
Act Effct Green (s)	7.4	7.4	62.7	62.7	50.6	
Actuated g/C Ratio	0.09	0.09	0.79	0.79	0.64	
v/c Ratio	0.20	0.55	0.48	0.67	0.72	
Control Delay	35.6	13.4	6.1	6.8	14.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.6	13.4	6.1	6.8	14.4	
LOS	D	B	A	A	B	
Approach Delay	17.3			6.7	14.4	
Approach LOS	B			A	B	
Queue Length 50th (ft)	16	0	15	147	241	
Queue Length 95th (ft)	42	53	38	334	457	
Internal Link Dist (ft)	171			990	825	
Turn Bay Length (ft)						
Base Capacity (vph)	417	498	427	1490	1197	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.33	0.46	0.67	0.72	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Issaquah-Pine Lake Rd SE & SE 48th St



Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	0	0	0	0	8	0	36	0	13	41	7
Future Vol, veh/h	6	0	0	0	0	8	0	36	0	13	41	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	8	0	0	0	0	10	0	46	0	16	52	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	140	135	57	135	139	46	61	0	0	46	0	0
Stage 1	89	89	-	46	46	-	-	-	-	-	-	-
Stage 2	51	46	-	89	93	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	832	758	1012	839	754	1026	1549	-	-	1568	-	-
Stage 1	921	823	-	970	859	-	-	-	-	-	-	-
Stage 2	964	859	-	921	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	817	750	1012	832	746	1026	1549	-	-	1568	-	-
Mov Cap-2 Maneuver	817	750	-	832	746	-	-	-	-	-	-	-
Stage 1	921	814	-	970	859	-	-	-	-	-	-	-
Stage 2	954	859	-	911	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	8.5	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1549	-	-	817	1026	1568	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.01	0.01	-	-
HCM Control Delay (s)	0	-	-	9.4	8.5	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

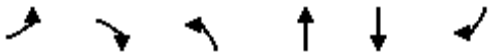
Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	0	61	163	0	51
Future Vol, veh/h	139	0	61	163	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	164	0	72	192	0	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	164	0	500	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1421	-	532	883
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	502	883
Mov Cap-2 Maneuver	-	-	-	-	502	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	883	-	-	1421	-
HCM Lane V/C Ratio	0.068	-	-	0.051	-
HCM Control Delay (s)	9.4	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	158	197	939	773	33
Future Volume (vph)	34	158	197	939	773	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1787	1881	1870	0
Flt Permitted	0.950		0.179			
Satd. Flow (perm)	1787	1599	337	1881	1870	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		168			4	
Link Speed (mph)	30			30	30	
Link Distance (ft)	251			1070	905	
Travel Time (s)	5.7			24.3	20.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	168	210	999	857	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	
Total Split (s)	23.0	23.0	13.0	67.0	54.0	
Total Split (%)	25.6%	25.6%	14.4%	74.4%	60.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	None	Max	Max	
Act Effct Green (s)	7.5	7.5	62.5	62.5	50.2	
Actuated g/C Ratio	0.09	0.09	0.79	0.79	0.64	
v/c Ratio	0.21	0.55	0.51	0.67	0.72	
Control Delay	35.7	13.4	6.7	6.8	14.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	13.4	6.7	6.8	14.7	
LOS	D	B	A	A	B	
Approach Delay	17.3			6.8	14.7	
Approach LOS	B			A	B	
Queue Length 50th (ft)	17	0	17	149	248	
Queue Length 95th (ft)	44	54	40	337	461	
Internal Link Dist (ft)	171			990	825	
Turn Bay Length (ft)						
Base Capacity (vph)	418	503	422	1488	1188	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.33	0.50	0.67	0.72	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Issaquah-Pine Lake Rd SE & SE 48th St